



UNDER DEVELOPMENT

You know the feeling – you try to make someone's life easier and they return the favour by making your life more difficult. At least, that's how it feels for David Robinson

Custards have a wonderful habit of trivialising a job. What seems like a straightforward requirement can contain a minefield of details, any of which can cause the whole project to fail. Take a situation I had recently in Vladivostok. The boss of the UK factory that commissioned the job had pronounced it "simple". I told him that the distance, language differences and so on held unpredictable challenges and we needed to allow plenty of time for dealing with them. But he wouldn't have any of it, and we wound up running around like headless chickens to meet the deadline.

The first copy we shipped was a good example of what can go wrong. They couldn't enter any numeric data that involved non-integer values (that is, numbers with decimal points). Some countries enter a number such as 12345.67 as 12345,67, using a comma as a decimal point. What's more, if they use fancy number formatting, \$12,345.67 becomes \$12.345,67. We knew from projects we'd done before that Spanish-speaking countries did it this way, but we didn't know the Russians did it too.

Normally Windows' international settings compensate for this quirk. But try as we might, we couldn't get that to function on the user's computer, so we had to write a pile of code inside our program to do it instead, then ship another CD by special delivery to the other side of the world.

BRAIN DRAIN

Here's a challenge for you. Rearrange the following words into a well-known phrase or saying: like the good time at it seemed a idea. I'm referring to a brainwave I had for saving the customer time and effort.

This particular customer's goods have a series of characteristics that vary from box to box, so a label is needed to tell you what's inside. The user also required a serial number on each box of items to be represented by a barcode so the boxes could be booked into stock when they arrived and booked out when one was used in production. Bear in mind there were a lot of boxes, so doing this



manually would have been a very time-consuming job.

To add to the work, the details of each box's contents, including weight, composition, grade, colour and so on, also had to be typed in. If there were a thousand boxes per shipment, and six characteristics averaging eight characters each, a 10-digit serial number and size and weight per box, this would add up to over 70,000 keystrokes of typing every month.

WILLING AND LABEL

Then I had the brainwave: if the Russians were typing all that stuff to put the details on the label, why didn't we just capture the information at source in the label program and save the factory staff here the job of retyping it all in again? There were several ways to do this, including putting the data into a file then somehow getting the file from Vladivostok to Wigan. Putting the data into a file wouldn't be too much of a problem, although we would have to consider what kind of file it would be, how to ensure it got backed up, synchronising the sending of data so you only send it once and other such formalities.

However, what was more worrying was how the data was going to get here. Most users I deal with can't use Windows Explorer to copy a file from one folder to another. I didn't want to have to deal with that complication on a regular basis, especially when the support

didn't speak English or even use the same alphabet. They didn't have broadband, either – just a ropey 32K modem attached to a dodgy-quality phone line.

MANIC COMPRESSION

And then I had the mega-brainwave. Could we compress the information we needed into a short enough sequence to get it into a barcode? Then all we had to do was scan the barcode when the box arrived, unscramble the contents and we'd have chapter and verse on what was inside. Brilliant.

With a bit of jiggery-pokery we could (just) get it all into a 30-character barcode, and tests showed that the scanner we wanted to use could read one that long. Lots of scanners won't, but the Datalogic BT100 (a cordless Bluetooth model) that we were using did.

Keefy programmed the code to do the data compression, which included converting the data into a Multipurpose Internet Mail Extensions (MIME)-style character string. We had to do this because you can only put a limited range of computer characters into a barcode. Seven-bit ASCII characters between 32 and 127 are OK but any outside that range aren't. And of course, some of the numbers we wanted to record will produce byte values below 32 and between 128 and 255, so we have to use MIME to produce values we can encode into a barcode. For more information about

MIME, see www.activexperts.com/activemail/mime.

SEEING RED

So that's that, then? No. If you heard a loud whooshing sound recently and wondered what caused it, I can enlighten you. It was the sound of rapidly moving goalposts. In fact, they were moving so fast that redshift and the Doppler effect were coming into play.

We'd arranged for all the product characteristics that were to be printed on the label to be selectable by the user from drop-down menus; they could only select approved characteristics, which ensures consistent quality of data. So if there was a list of colours we didn't encode the word 'red' or 'green' into the barcode, as it wasted too much space. Instead, we simply used the list position, so 1=red, 2=green and so on.

There were six separate lists of characteristics, all encoded into the barcode using this method. But one week after the Vladivostok factory started producing labels, somebody over here decided (a) we needed more/different characteristics; and (b) they really, really, *really* wanted those that we do have listed in a different bloody order.

Changing the order means that labels already produced for, say, red products have a 1 in a certain position in the barcode, but now that means green or purple.

I told you it seemed like a good idea at the time. Now I'm wondering why I bother trying to make life easier for custards when they never return the favour.

However, they insisted. So I insisted that they tell the Russians to redo the first lot of labels. I'm just hoping that they're not affiliated to the Russian Mafia – if they are, there's a big risk that the next whooshing noise we hear won't be moving goalposts but an approaching second-hand Red Army missile. **ES**

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